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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Occupational Safety in Niš |
| **GENERAL INFORMATION** |
| Study program  | Environmental Engineering |
| Study Module (if applicable) | - |
| Course title | Environmental Noise Protection |
| Level of study | ☐ Bachelor ⌧ Master’s ☐ Doctoral |
| Type of course | ⌧ Obligatory ☐ Elective |
| Semester  | ⌧ Autumn ☐ Spring |
| Year of study  | I |
| Number of ECTS allocated | 5 |
| Name of lecturer/lecturers | Momir Praščević, Dragan Cvetković |
| Teaching mode |  ⌧ Lectures ☐Group tutorials ☐ Individual tutorials ⌧ Laboratory work ☐ Project work ☐ Seminar ☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Acquiring theoretical knowledge and practical skills in environmental noise. Enabling students to solve concrete environmental problems caused by noise through source identification and characterization, as well as to design systems for noise protection. Learning outcomes: advanced techniques for environmental noise measurement, application of software for environmental noise level calculation, diagnostic application of noise, calculation of sound absorption, calculation of sound isolation.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Noise sources and their properties: road, railway, and air traffic, industry, construction machinery, public utility vehicles. Noise in residential buildings. Types of noise sources. Models for noise prediction. Advanced noise‐measuring techniques. Diagnostic application of noise. Noise mapping. Acoustic zoning of space. Application of software tools for acoustic mapping. Noise control. Basic principles. Point source noise control. Transfer route control. Reception point control. Soundproofing and absorption, sound protection of buildings. Soundproofing of single‐layer barriers Resonant area of a homogeneous single‐layer barrier. Mass law. Coincidence effect. Soundproofing of a double‐layer infinite barrier and real double‐layer barrier. Effect of basal conduction on barrier soundproofing abilities. Sound permeability of floor slabs. Reduction of sound permeability. Calculation of floating floor sound permeability. Noise reduction through increase in room absorption. Design of sound protection for construction elements; protection form installation noise and noise from machinery. |
| **LANGUAGE OF INSTRUCTION** |
| ☒ Serbian (complete course) ☐ English (complete course) ☐ Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)⌧ Serbian with English mentoring ☐Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **ASSESSMENT METHODS AND CRITERIA** |
| **Pre exam duties** | **Points** | **Final exam** | **points** |
| **Activity during lectures** | **10** | **Written examination** | **20** |
| **Practical teaching** | **20** | **Oral examination** | **20** |
| **Teaching colloquia** | **30** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |